IN THE SPECIFICATION

Please amend the title of the invention as follows:

METHOD OF ~~OPERATING AN ENERGY SYSTEM~~ DYNAMICALLY CHARGING A BATTERY USING LOAD PROFILE PARAMETERS.

Please replace the paragraph beginning on page 2, line 9, with the following amended paragraph:

These existing methods, while adequate, do not allow for the most useful method of optimization. Existing methods, as set forth above, neither provide for "real time" adaptation of the charging regimen to the energy system while it is "live" in operation, nor take into account the varied applications that may be presented to an energy system. For example, while it would generally be desirable to charge the battery to its highest possible state of charge for more constant, energy-based applications presented to the energy system (which in turn would provide the greatest range or longest duration use for the application running off the battery), such an approach is generally not considered optimal for more dynamic, power-based applications. For smooth or constant, energy-based applications, the system operator will want the energy system to be charged to the highest possible state of charge in order to allow for the longest duration of use. However, for dynamic, power-based applications, where the [[the]] application operator wants big surges of power as opposed to large amounts of energy for constant, smooth use, he may want to charge the energy system to a lower percentage state of charge (*i.e.*, 50% state of charge), thereby optimizing the systems power level to allow for more power in and out of the system.

Please replace the paragraph beginning on page 8, line 22 with the following amended paragraph:

In a different approach, the voltage and current measurements stored in history table 44 are provided to a neural network with embedded delays, which then computes the average power and energy requirements of the load profile, resulting in the creation of an energy spectra and a power spectra. There are a wide variety of known, neural network implementations that [[canbe]] can be used in the present invention. It should be noted, however, that these approaches are exemplary and are not meant to be limiting in nature.

Please replace the paragraph beginning on page 10, line 5 with the following amended paragraph:

In accordance with the present invention, an energy system formed of lithium chemistry technologies is coupled to an application which draws power from the energy system. While the application is in use, the voltage and current being drawn from the energy system by the application are sampled at a predetermined rate. These measurements are then stored in a history table within the energy system, and are used to create a running series of time-based measurements. A first series of these measurements are then processed in order to determine an energy spectra and a power spectra of the application's load profile presented to the energy system. This allows the energy system to determine whether the application is using the energy system in an energy-based or a power-based manner. Similarly, a second series of time-based measurements are then processed to define a second energy spectra and power spectra corresponding to the second series of time-based measurements. A weighting factor is then determined and assigned to the second energy spectra and power spectra, and then a charging strategy is defined based on the [[the]] products of the second energy spectra and power spectra and the weighting factor. This strategy is then implemented using a charging system.